LCQ10: Water works carried out in villages

Following is a question by the Hon Cheng Chung-tai and a written reply by the Secretary for Development, Mr Michael Wong, in the Legislative Council today (June 13):

Question:

As of March last year, a total of about 400 residents in 19 villages are not yet supplied with tap water. Recently, several residents of Tsing Shan Tsuen in Tuen Mun have revealed that they have been using water from water tanks and streams nearby. These water sources dried up last month due to the hot weather. Therefore, the Water Supplies Department (WSD) needed to transport potable water to the residents in that village. In this connection, will the Government inform this Council:

(1) of the number of requests for assistance or complaints received regarding the supply of tap water from the residents of the above 19 villages in the past two years, broken down by village name;

(2) whether the authorities conducted any technical feasibility study and economic assessment on laying water mains to the above villages in the past two years; if so, of the details; if not, the reasons for that; and

(3) this Council and the relevant District Council members have made repeated requests to the authorities for constructing tap water supply systems for the above villages, but the authorities have been declining these requests due to low cost-effectiveness for the relevant works and very high per capita capital costs. Have the authorities reviewed if cost-effectiveness for these works should outweigh the basic living needs of the residents?

Reply:

President,

At present, the treated water supply networks cover about 99.9 per cent of the population of Hong Kong. Areas that do not have treated water supply are mainly remote villages with sparse population. Although these villages do not have treated water supply, they have access to systems that supply stream or well water for domestic consumption. These supply systems have been in use for many years. Most of them are under the maintenance of the Home Affairs Department (HAD). The Food and Environmental Hygiene Department also regularly monitors and tests the quality of the stream or well water in these villages to ascertain their suitability for potable consumption. In the event of these water sources becoming depleted or insufficient, the Government will provide assistance. For example, the HAD will transport potable water to villages with water shortage to meet the needs of villagers. The Water

Supplies Department (WSD) will also provide necessary assistance such as providing water tanks and potable water.

For the case of Tsing Shan Tsuen in Tuen Mun, there are about 750 residents in Tsing Shan Tsuen according to estimate of the Tuen Mun District Office. The treated water supply network of the WSD currently covers about 700 residents. The remaining 50 residents are living in locations at a higher terrain of the village where the water pressure of the water supply system is insufficient for delivering treated water supply there. However, the WSD is studying the feasibility of extending the existing water supply network in Tsing Shan Tsuen and enhancing the water pressure to cover the entire village.

The reply to the Hon Cheng Chung-tai's question is as follows:

(1) In the past two years, the WSD received requests for provision of treated water supply from 10 remote villages, including Tai Long (South Lantau), Nim Shue Wan, Cheung Sha Lan, Tso Wan (Northeast Lantau), Po Toi Island, Yi O (West Lantau), Mui Tsz Lam, Tung Ping Chau, Wong Chuk Yeung and Sham Chung. In addition, for some villages that are covered by the water supply network of the WSD, those residents who are living in the locations at a higher terrain where the pressure of the water supply system is insufficient for delivering treated water supply there have also requested the WSD to provide treated water supply, such as Tsing Shan Tsuen in Tuen Mun.

(2) & (3) The Government has been monitoring the water supply situations of the above remote villages. These remote villages have sparse populations and are far away from both urban areas and existing treated water supply network. If treated water supply systems are to be constructed for these remote villages, low water consumption may lead to stagnant water in water mains and hence resulting in the deterioration of water quality. Moreover, the per capita capital cost for the construction of treated water supply systems for these villages would be high. The WSD has been continuously exploring possible options to solve the above issues and will regularly review the situations. In fact, the WSD has been completing treated water supply systems for remote villages in recent years, such as the water supply systems in Tung Ah, Tung Ah Pui, Ngan Hang and Nan Lai Wan in South District, Sham Ah Shui on Lantau Island and Yuen Tun Ha in Tai Po. The WSD will continue to closely monitor and regularly review the situations of the remote villages without treated water supply, such as the latest population and nearby developments, and will also study various options to address the problem of deterioration of water quality due to low water consumption, including exploring exploitation of water sources to supplement existing raw water sources. For those villages with treated water supply but it is unable to reach the residents who are living in the locations at a higher terrain due to insufficient water pressure, the WSD will study the feasibility of extending the existing water supply networks in these villages and enhancing water pressure to cover the entire villages.

Employers and employees should take precautions against heat stroke

As the Hong Kong Observatory has issued the Very Hot Weather Warning, the Labour Department (LD) reminds employers and employees to take appropriate precautions to prevent heat stroke when working in a hot or humid environment.

Heat stroke could occur if an employee works in a hot or humid environment for prolonged periods of time, as the body may fail to regulate its temperature by effective heat dissipation through sweating.

The early symptoms of heat stroke include feeling thirsty, fatigue, nausea and headache. Later, the victim may experience shortness of breath, rapid and weak pulse, dizziness, confusion or even loss of consciousness and convulsion.

For example, construction workers, cleaning workers, kitchen workers and porters are more prone to heat stroke when working for long hours in such an environment, especially if appropriate preventive measures have not been taken.

The LD reminds employers to arrange for a suitable assessment of the risk of heat stress in the work environment and take appropriate preventive measures. The LD has produced two leaflets entitled "Checklist for Heat Stress Assessment at Construction Sites" and "Checklist for Heat Stress Assessment at Outdoor Cleansing Workplaces" respectively. Employers engaged in construction or outdoor cleaning work are advised to refer to these checklists in assessing the risk of heat stress at their workplaces. As for heat stress assessment at a workplace in general, employers can refer to a booklet entitled "Risk Assessment for the Prevention of Heat Stroke at Work" produced by the LD.

The LD also reminds employers and employees to take the following precautions to prevent heat stroke:

Employers

(1) Take heed of the weather report and adopt shift work arrangements for employees to reduce their exposure to the hot environment, or arrange appropriate rest breaks for them during very hot periods;
(2) Avoid working under direct sunlight and set up temporary sunshade wherever possible;
(3) Provide cool potable water for employees at all times during work. If necessary, provide drinks containing minerals for employees to replenish loss of electrolytes during profuse sweating;

(4) Minimise physical demands by using tools or mechanical aids at work;
(5) Increase air flow by enhancing ventilation or air-conditioning as appropriate;
(6) Isolate heat-generating facilities at the workplace and use insulating materials to minimise heat dissipation to the other work areas; and
(7) Provide relevant information and training for employees on heat stroke such as preventive measures and first aid treatment.

Employees
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(1) Wear clothing made of suitable materials (for example, cotton) that is loose-fitting and light-coloured to help heat dissipation, minimise heat absorption and allow sweat evaporation;
(2) Wear a wide-brimmed hat when working outdoors;
(3) Drink plenty of water or other appropriate beverages to replenish the fluids and electrolytes lost through sweating; and
(4) Whenever there are any symptoms of heat stroke, inform supervisors and take appropriate actions immediately.

Some employees may have difficulty in adapting to a hot working environment owing to their own health conditions. Employers should take this into account and consider the recommendations of their doctors when assigning work to these employees.

In addition to the publications on risk assessment, the LD has produced a leaflet entitled "Prevention of Heat Stroke at Work in a Hot Environment" for the public. The publications can be obtained free of charge from the offices of the Occupational Health Service of the LD, or downloaded from the department's webpage at www.labour.gov.hk/eng/public/content2_9.htm.

The LD organises occupational health talks in public places and at its own training venues regularly to raise employers' and employees' awareness of occupational health. Details of health talks on the prevention of heat stroke at work in a hot environment in June to September are as follows:

(A)
Dates: June 26; July 9 and 24; August 2, 13 and 30; and September 13 and 24 (am)
June 22; July 5, 20 and 30; August 8 and 22; and September 5, 20 and 27 (pm)
Time: Half-day
Venue: Occupational Safety and Health Training Centre of the Labour Department, 13/F, Kolour·Tsuen Wan I, 68 Chung On Street, Tsuen Wan, New Territories

(B)
Dates: July 13 and 27 and August 10 and 20
Time: Half-day, morning
Venue: Occupational Safety and Health Centre of the Labour Department, G/F, Kwun Tong Community Health Centre Building, 60 Hip Wo Street, Kwun Tong (MTR Kwun Tong Station Exit A1)

(C)
Date: August 13
Time: 3pm to 4.30pm
Venue: Lecture Hall, Hong Kong Space Museum, 10 Salisbury Road, Tsim Sha Tsui, Kowloon (MTR Tsim Sha Tsui Station Exit E)

(D)
Date: July 16 and September 14
Time: 3pm to 4.30pm
Venue: Activity Room I, Hong Kong Central Library, 66 Causeway Road, Causeway Bay, Hong Kong
(Opposite Victoria Park, MTR Tin Hau Station Exit B)

For enrolment or enquiries about these occupational health talks, please call 2852 4040 or 2361 8240 (for talks organised at the Occupational Safety and Health Centre). Moreover, the LD also provides an outreach health education service and occupational health nurses will, on invitation, disseminate occupational health information at workplaces at a convenient time. Please contact the nursing officer at 2852 4062 for details. All these health talks are free of charge.

Guangdong-Hong Kong-Macao Pearl River Delta Regional Air Quality Monitoring Network results for 2017 released

The Guangdong-Hong Kong-Macao Pearl River Delta Regional Air Quality Monitoring Network released today (June 20) a report on its 2017 monitoring results, which showed continual improvement of the air quality in the Pearl River Delta (PRD) last year. Compared with the 2016 levels, the average annual concentration levels of sulphur dioxide (SO_2), nitrogen dioxide (NO_2) and carbon monoxide (CO) in the PRD in 2017 decreased by 8 per cent, 3 per cent and 6 per cent respectively.

While the average annual concentration levels of respirable suspended particulates (RSP) and fine suspended particulates (FSP) in 2017 increased by 7 per cent compared with 2016 levels, the long-term downward trend of pollutant levels is evident despite the short-term fluctuations. Compared with the 2006 levels, the annual concentration levels of NO_2, SO_2 and RSP in 2017 decreased by 26 per cent, 77 per cent and 34 per cent respectively. The figures reflect that the measures implemented by Guangdong, Hong Kong and Macao in recent years have contributed to the improvement of air quality in the PRD. Nonetheless, the 2017 average annual concentration level of ozone (O_3) increased by 21 per cent and 16 per cent respectively compared with the 2006 and 2016 levels, indicating that further alleviation of the regional

photochemical pollution is required. The pollution trends of the six air pollutants since 2006 are shown in the Annex.

To continually improve regional air quality and photochemical pollution, the Hong Kong Special Administrative Region Government and the Guangdong Provincial Government have long been committed to reducing key air pollutants emissions. The Guangdong and Hong Kong governments concluded in 2012 the emission reduction targets for 2015 and the emission reduction ranges for 2020. According to the results of the mid-term review study on emission reduction targets of air pollutants in the PRD region announced last year, both sides have achieved their respective 2015 reduction targets and have finalised the reduction targets for 2020.

Key emission reduction measures implemented in Hong Kong in recent years include further tightening the emission caps for power plants, reviewing the fuel mix for electricity generation, progressively phasing out pre-Euro IV diesel commercial vehicles, strengthening the control of emissions from LPG and petrol vehicles, tightening the sulphur content of locally supplied light diesel for vessels' consumption, regulating ocean-going vessels to switch to low-sulphur fuel when berthing in Hong Kong waters, progressively restricting the volatile organic compounds (VOC) content of various products and controlling the emissions from non-road mobile machinery.

Key emission reduction measures implemented by Guangdong in recent years include increasing the supply of clean energy; enhancing the structure of energy supply; introducing stringent environmental requirements for new projects; phasing out low-technology and polluting industries; embarking on programmes to reduce air pollution by adopting desulphurisation, low nitrogen-oxides (NOx) combustion and de-NOx technologies; designating restriction zones for combustion of highly polluting fuels; fully implementing restriction zones for highly polluting vehicles (commonly known as yellow-label vehicles); implementing National V emission standards for motor vehicles; supplying motor diesel and petrol at National V standards; electrifying public transport; practising water-borne coating modifications of containers, and promoting remediation of VOC emissions in key industries and enterprises. In 2017, around 1 500 remedial measures were taken in Guangdong against construction materials industries, boilers and VOC, while 147 000 yellow-label vehicles were phased out. Ultra-low emission upgrading was largely completed for coal-fired generating units with generating power exceeding 100 kW. Desulphurisation equipment was installed in all sintering machines and pelletising machines, while de-NOx equipment was installed using a selective non-catalytic reduction method for all cement clinker production lines with a daily production capacity of 2 000 tonnes or above.

The Macao side is also taking forward a series of air quality improvement measures by continuously implementing legislation and formulating scientific standards under the ambient pollution control actions outlined in the Macao Environmental Protection Plan (2010-2020). The improvement measures include announcing the tailpipe emission standards of newly imported and in-use vehicles, implementing quality control of unleaded petrol and light diesel equivalent to Euro V standards, implementing subsidy schemes to phase

out two-stroke motor vehicles, formulating plans to introduce and promote environmentally friendly vehicles, and putting forward the formulation of emission standards and regulatory legislation for stationary sources.

The monitoring network comprising 23 air monitoring stations located in Guangdong, Hong Kong and Macao monitors the six major air pollutants (i.e. SO2, NO2, O3, RSP, FSP and CO). The Guangdong Environmental Monitoring Centre, the Environmental Protection Department of Hong Kong (EPD), the Macao Environmental Protection Bureau (Macao EPB) and the Macao Meteorological and Geophysical Bureau (Macao MGB) are responsible for the co-ordination, management and operation of the monitoring stations of the three sides, and will continue to release annual reports on the monitoring results and pollution trends of the PRD as well as quarterly statistical monitoring results. Members of the public can visit the website of the Guangdong-Hong Kong-Macao Regional Air Quality Monitoring Information System (113.108.142.147:20047) direct, or the websites of the Department of Environmental Protection of Guangdong Province (GDEPD) (www.gdep.gov.cn), the EPD (www.epd.gov.hk), the Macao EPB (www.dspa.gov.mo) and the Macao MGB (www.smg.gov.mo) to obtain the relevant annual reports and quarterly monitoring statistics.

LCQ14: Water supply arrangements and management of water resources

Following is a question by the Hon Wu Chi-wai and a written reply by the Secretary for Development, Mr Michael Wong, in the Legislative Council today (June 20):

Question:

Regarding the water supply arrangements and management of water resources in Hong Kong, will the Government inform this Council:

(1) of the time limit, prescribed under the Agreement for the supply of Dongjiang water to Hong Kong signed between the Hong Kong Government and the Guangdong Provincial Government, within which the Guangdong provincial authorities must notify the Hong Kong Government upon the occurrence of incidents (such as insufficient water quantity, pollution of water sources or damages to water supply facilities) on the Mainland which may lead to an interruption to the supply of Dongjiang water to Hong Kong;

(2) whether the Water Supplies Department (WSD) has formulated a contingency plan to cope with the situation of a tight supply of fresh water in Hong Kong; if so, of the details (including the circumstances under which the plan will be activated);

(3) whether various government departments have formulated plans and administrative arrangements for implementing water conservation measures (such as reducing the use of fresh water for street cleaning by the Food and Environmental Hygiene Department (FEHD)) when fresh water supply is tight; if so, of the details;

(4) of the respective annual water consumption of the top five government departments in water consumption (including the water consumption of their outsourced service contractors) in the past three years, with a breakdown by use of the water;

(5) whether various government departments have formulated (i) short-term and long-term water conservation targets as well as (ii) guidelines on water consumption; if so, of the details; as the Government said in reply to a question raised by a Member of this Council in 2013 that the WSD was reviewing the water consumption practices in the Leisure and Cultural Services Department's parks and swimming pools as well as the FEHD's markets, street cleaning and refuse collection points, and would gradually extend the scope of the review to other government departments that have relatively high water consumption, of the latest progress of such work;

(6) whether it reviewed the water tariff structure in the past three years with a view to encouraging water conservation; if so, of the details and follow-up work;

(7) as the Government has taken forward the Inter-Reservoirs Transfer Scheme since as early as 2004, of the reasons why the Scheme still remains at the stage of reviewing and refining the detailed design, method statements and related environmental impact assessments at present; why it has not yet submitted funding applications to the Finance Committee of this Council in respect of the major works under the Scheme; and

(8) apart from the Tseung Kwan O Desalination Plant which is under construction, whether the Government has studied the implementation of other seawater desalination projects; if so, of the details; if not, the reasons for that?

Reply:

President,

The Government is committed to ensuring the reliability of water supply in Hong Kong. Currently, fresh water supply for Hong Kong comprises imported Dongjiang (DJ) water from Guangdong and rainwater from local catchments, meeting 70 to 80 per cent and 20 to 30 per cent of our total fresh water consumption respectively. The "package deal lump sum" approach has been adopted for DJ water supply agreements since 2006. This approach enables us to import DJ water as needed according to the amount of local yield collected each year up to an annual supply ceiling. The annual supply ceiling in the current supply agreement is set at 820 million cubic metres based on fresh

water demand analysis conducted by the WSD to ensure water supply reliability of 99 per cent, such that water supply can be maintained round-the-clock even under extreme drought condition with a return period of one in 100 years.

The WSD has promulgated the Total Water Management Strategy in 2008 to ensure sustainable and reliable water supply in Hong Kong. The Strategy puts an emphasis on containing the growth of water demand through water conservation, and supplementing the three existing water sources, being local yield, DJ water and seawater for flushing by three new water sources, namely desalinated seawater, reclaimed water and recycled grey water/harvested rainwater.

My response to the eight parts of Hon Wu's question is as follows:

(1) The Guangdong authorities and the WSD of Hong Kong have established a notification mechanism for serious incidents regarding the supply of DJ water to Hong Kong. In case of serious incidents, the designated contact person of Guangdong authorities would immediately notify the designated contact person of the WSD by phone. Furthermore, the Guangdong authorities would hold regular meetings with the Development Bureau and WSD in Hong Kong to discuss issues regarding the supply of DJ water to Hong Kong (including the quantity and quality of DJ water). These meetings include the Hong Kong/Guangdong Water Supply Operation and Management Technical Cooperation Sub-Group Meeting, the Hong Kong/Guangdong Water Supply Business Meeting and the Special Panel on the Protection of DJ Water Quality under the Expert Group of the Hong Kong/Guangdong Joint Working Group on Sustainable Development and Environmental Protection.

(2) & (3) As mentioned above, water supply can be maintained round-the-clock even under extreme drought condition with a return period of one in 100 years under the current water supply arrangement in Hong Kong. If Hong Kong suffers from persistent extremely dry weather, we will take into account a host of factors including fresh water demand, supply situation of various water resources, rainfall forecast for implementing appropriate responsive actions, such as imposing restriction on non-essential supplies including landscape irrigation, filling of swimming pools and street cleansing.

(4) & (5) The five government departments with the highest water consumption in the past three years are tabulated below:

Government department		Water consumption (million cubic metres)*		
		2015	2016	2017
1	Leisure and Cultural Services Department	13.05	12.51	12.38
2	Correctional Services Department	4.49	4.30	4.34
3	Food and Environmental Hygiene Department	3.42	3.63	3.52
4	Hong Kong Police Force	2.88	2.47	2.47

5	Drainage Services Department	1.92	2.12	2.22
Total Water Consumption		25.76	25.03	24.93

* The figures include water consumed by service providers at the premises of the respective government departments.

The WSD has prepared best practice guidelines for the top three government departments in water consumption, namely the Leisure and Cultural Services Department, the Correctional Services Department and the Food and Environmental Hygiene Department. All of them are progressively taking forward the water conservation measures recommended in the guidelines. In addition, the WSD has been carrying out the installation of water saving devices (such as water taps and showers) in suitable government venues and schools in phases since 2009. Currently, more than 50 000 devices have been installed. We target to complete the installation work by 2022. Besides, the installation of flow controllers in government venues and schools was substantially completed with about 53 000 pieces installed.

(6) Domestic consumers are usually billed for their water charges at quad-monthly intervals. Currently, the water charges payable are calculated using a tariff structure which consists of four tiers:

first tier: free of charge for the first 12 cubic metres;
second tier: $4.16 per cubic metre for the next 31 cubic metres;
third tier: $6.45 per cubic metre for the next 19 cubic metres
fourth tier: $9.05 per cubic metre for any consumption above the level of 62 cubic metres

The above tier tariff structure encourages the public to conserve water. The Government reviews the tariff rates and the tariff structure on a regular basis.

(7) The Government takes forward the Inter-Reservoirs Transfer Scheme, under which a tunnel connecting the Kowloon Byewash Reservoir and the Lower Shing Mun Reservoir will be built to reduce flood risks in the West Kowloon region and reduce overflow from the Kowloon Group of Reservoirs, thereby increasing water resources at the same time. We have obtained support on the project from the Legislative Council Public Works Subcommittee on May 28. We are now seeking funding approval from the Finance Committee. If the funding is approved, the Drainage Services Department plans to commence the construction works in the first quarter of 2019 for completion in the fourth quarter of 2022.

(8) Tenders are being invited for the "Design, Build and Operate" contract of the first stage of the Tseung Kwan O (TKO) desalination plant for commissioning in 2022. The first stage of the desalination plant will have a water production capacity of 135 000 cubic metres per day to meet about five per cent of the fresh water demand in Hong Kong. There is also provision for future expansion to the ultimate water production capacity of up to 270 000 cubic metres per day if necessary. The Government will study the programme

for implementing the second stage of TKO desalination plant having regard to the supply situation of various water resources, the fresh water demand forecast, the desalination technology development, etc.

Effective Exchange Rate Index

The effective exchange rate index for the Hong Kong dollar on Wednesday, June 20, 2018 is 100.8 (up 0.1 against yesterday's index).